

FIG.1

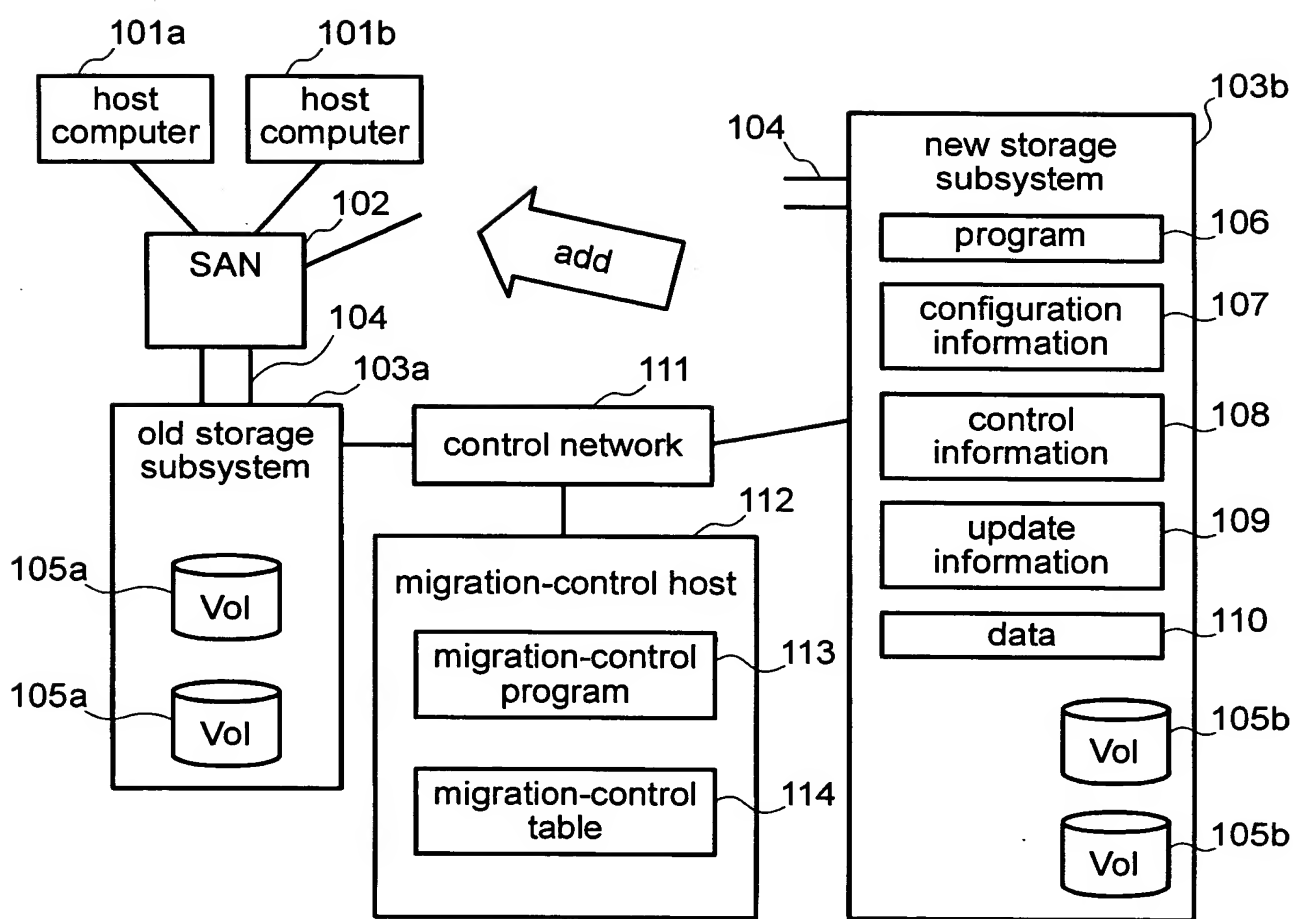


FIG.2

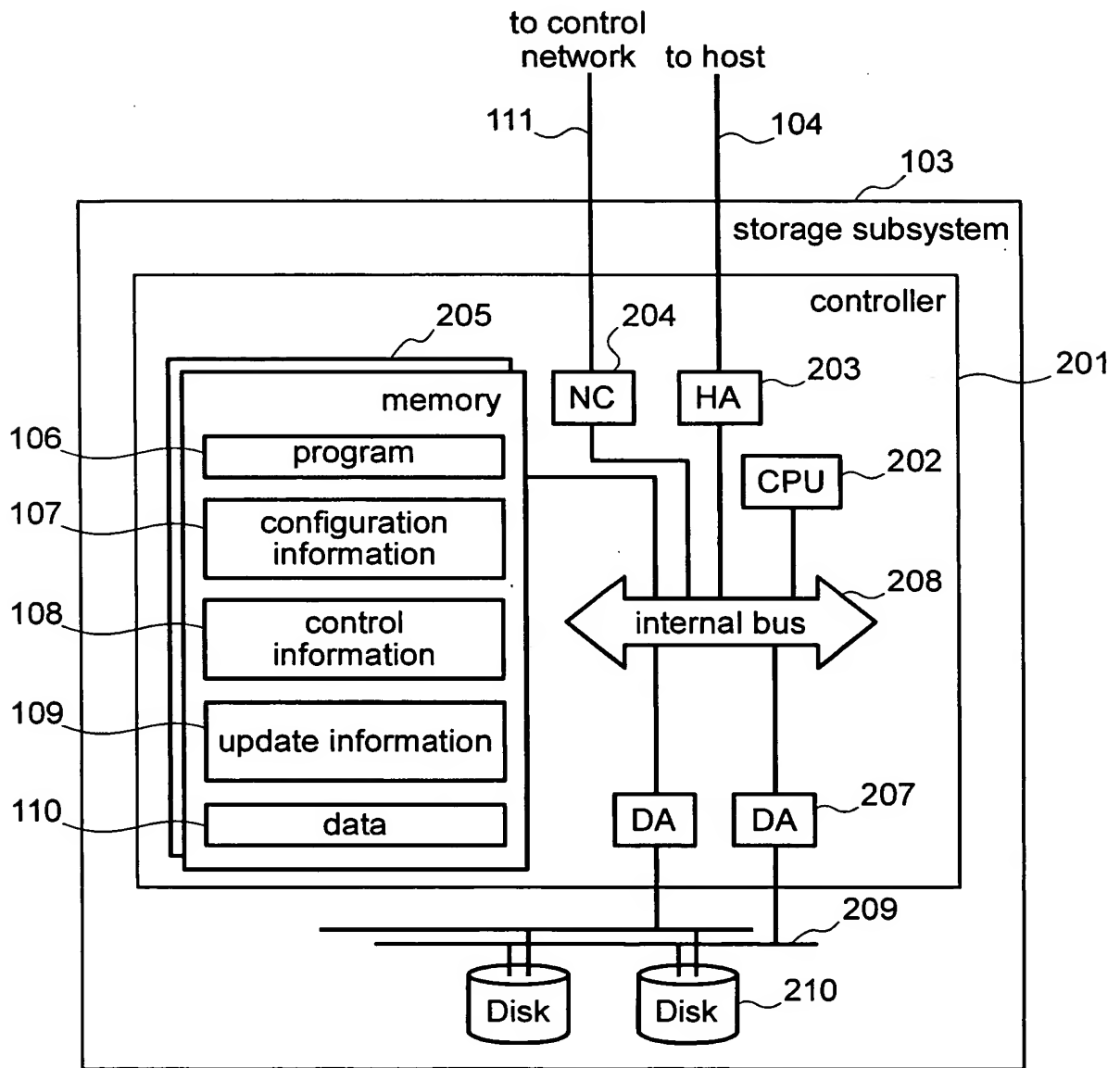


FIG.3

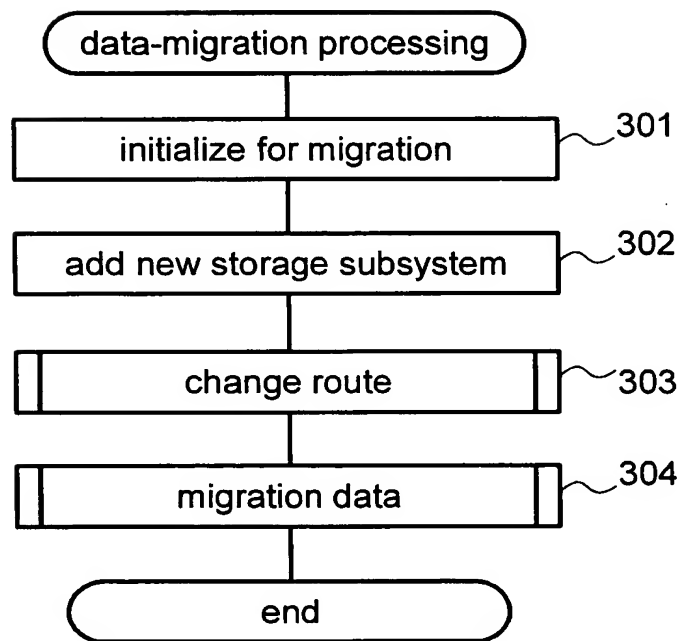


FIG.4

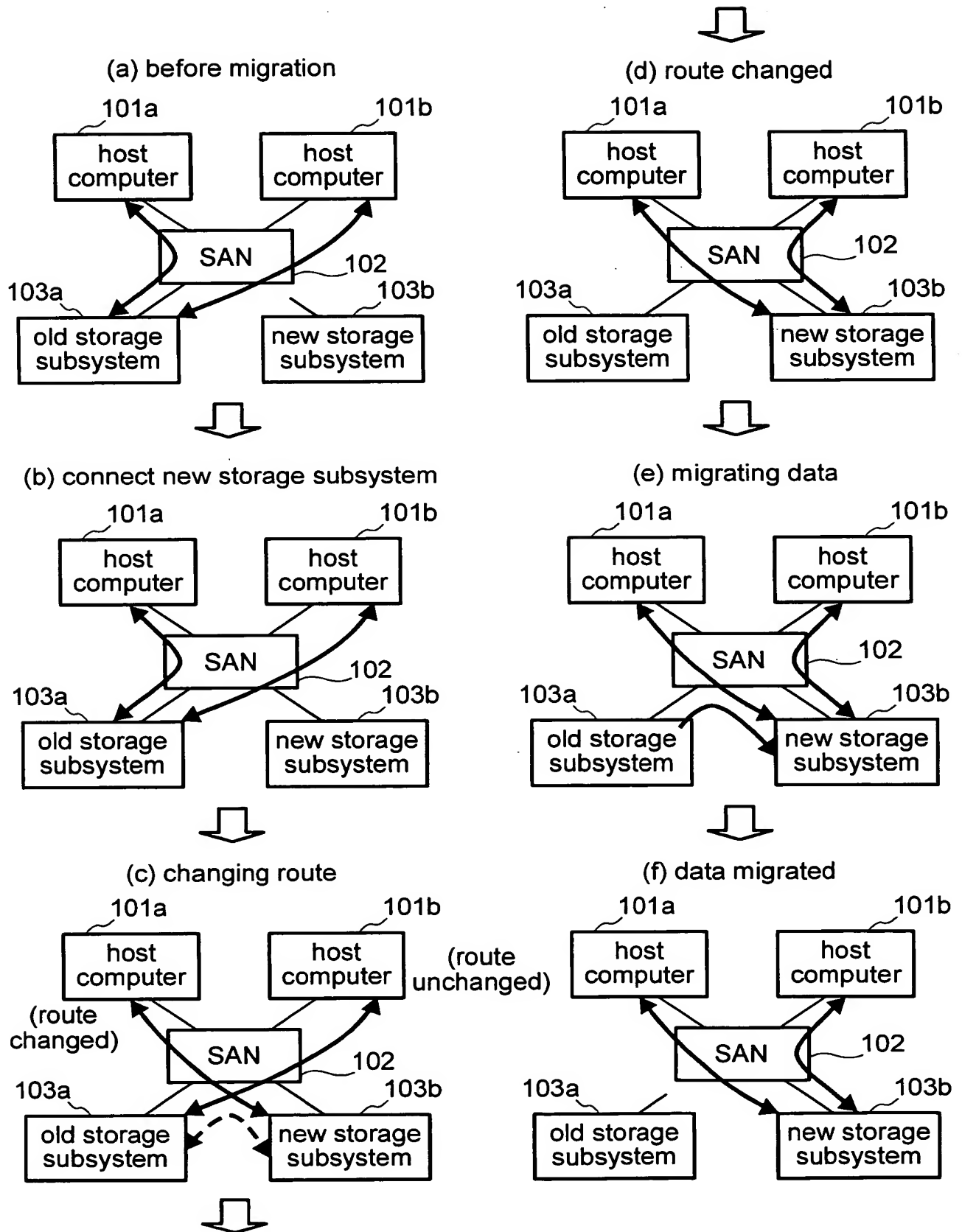


FIG.5

| # | migration status | old storage subsystem | | new storage subsystem | |
|---|----------------------|-----------------------|-------|--|-----------------------|
| | | read | write | read | write |
| 1 | before route change | old storage subsystem | | inaccessible | |
| 2 | route-changing phase | old storage subsystem | | old→new | new→old |
| 3 | data-migration phase | inaccessible | | data-unmigrated area: old→new data migrated area: new | new storage subsystem |
| 4 | after data migration | inaccessible | | new storage subsystem | new storage subsystem |

FIG.6

| Gr.ID | Status | old storage subsystem ID | new storage subsystem ID | detail |
|-------|----------------------|--|--|--|
| G00 | transferred | S00-0000 S00-0001 | S08-0000 S08-0001 | /home /usr |
| G01 | data transferring | S01-0000 S01-0001 S01-0002 S01-0003 | S09-0000 S09-0001 S09-0002 S09-0003 | /DBTable /log /backup0 /backup1 |
| G02 | route changing | S02-0000 S02-0001 S02-0002 S02-0003 | S09-0004 S09-0005 S09-0006 S09-0007 | /dept0 /dept1 /dept2 /dept5 |
| G03 | untransferred | S02-0004 S02-0005 | S09-0008 S09-0009 | /test0 /test1 |

FIG.7

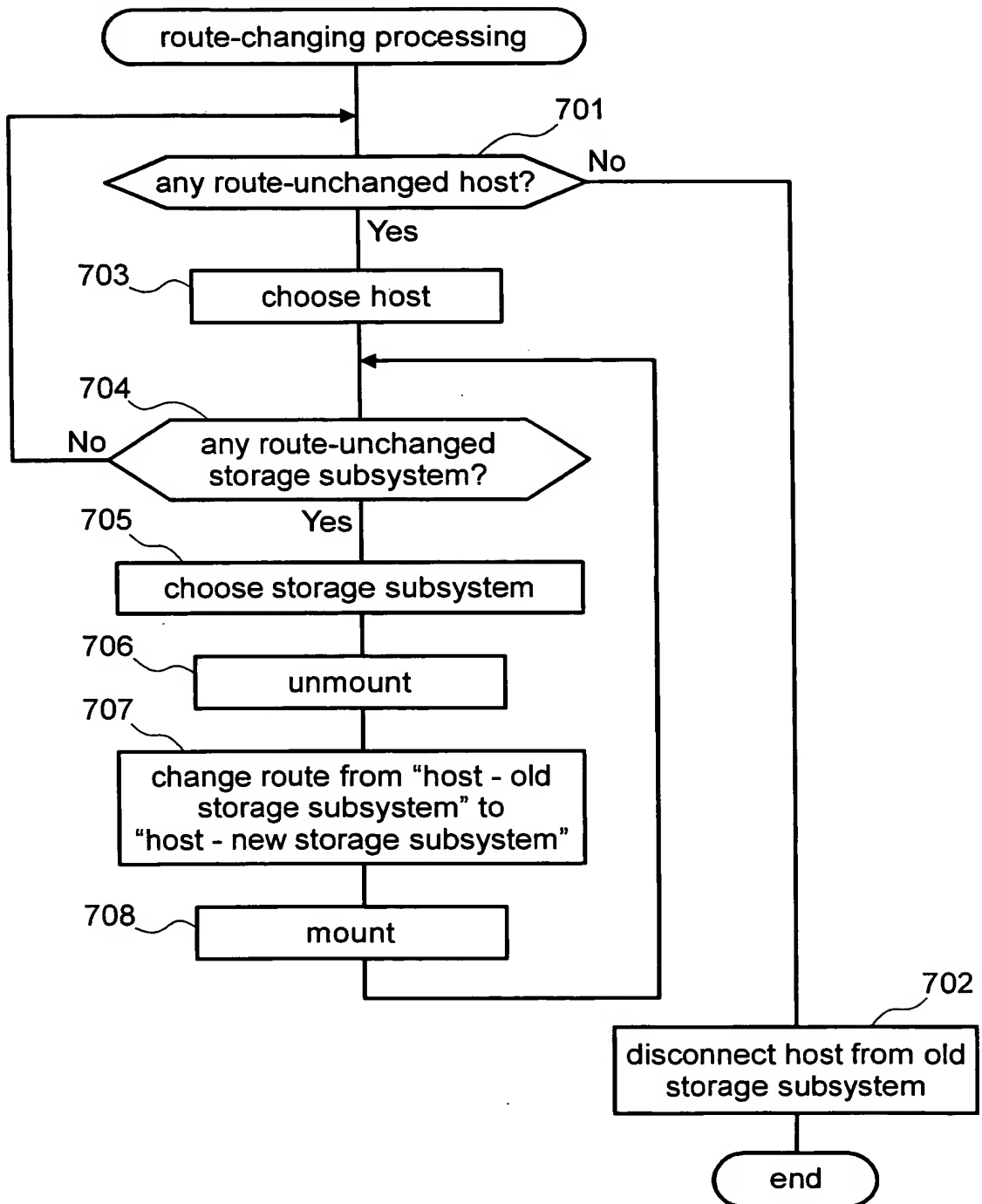


FIG.8

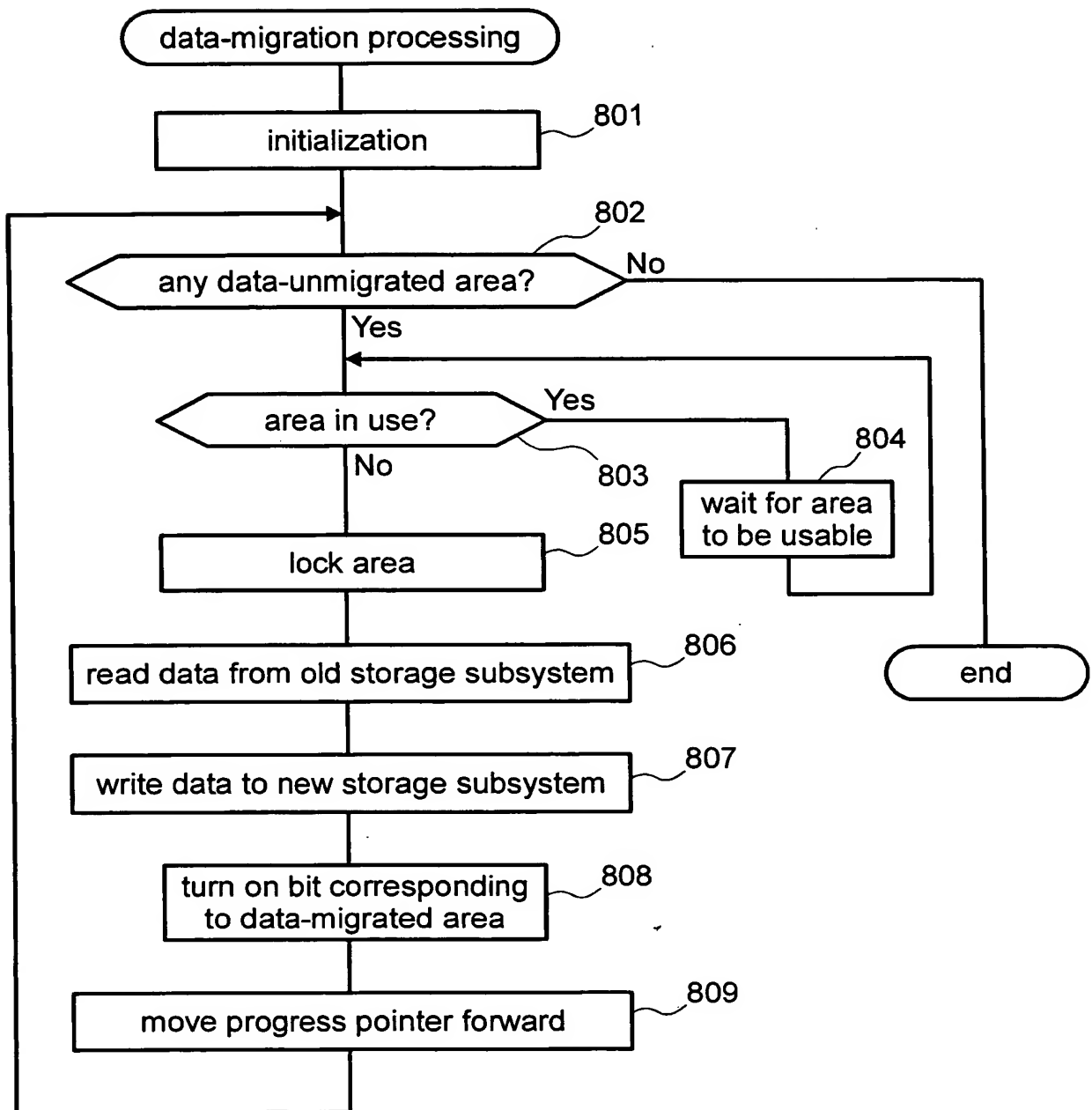
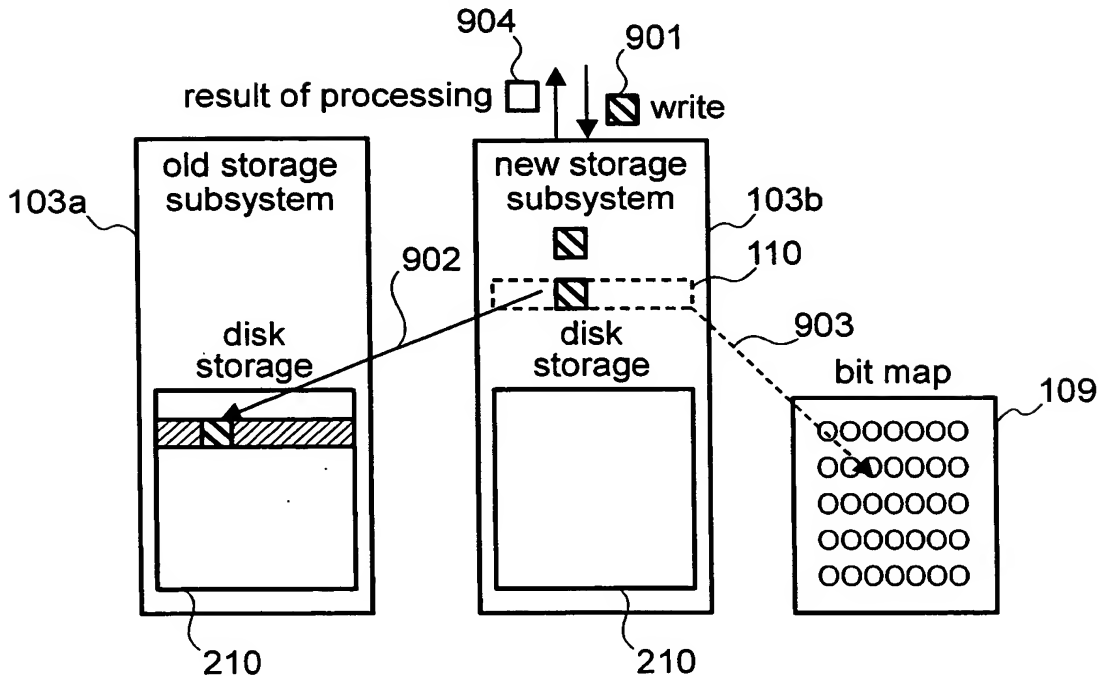


FIG.9

(a) route-changing phase



(b) data-migration phase (processing to data-unmigrated area)

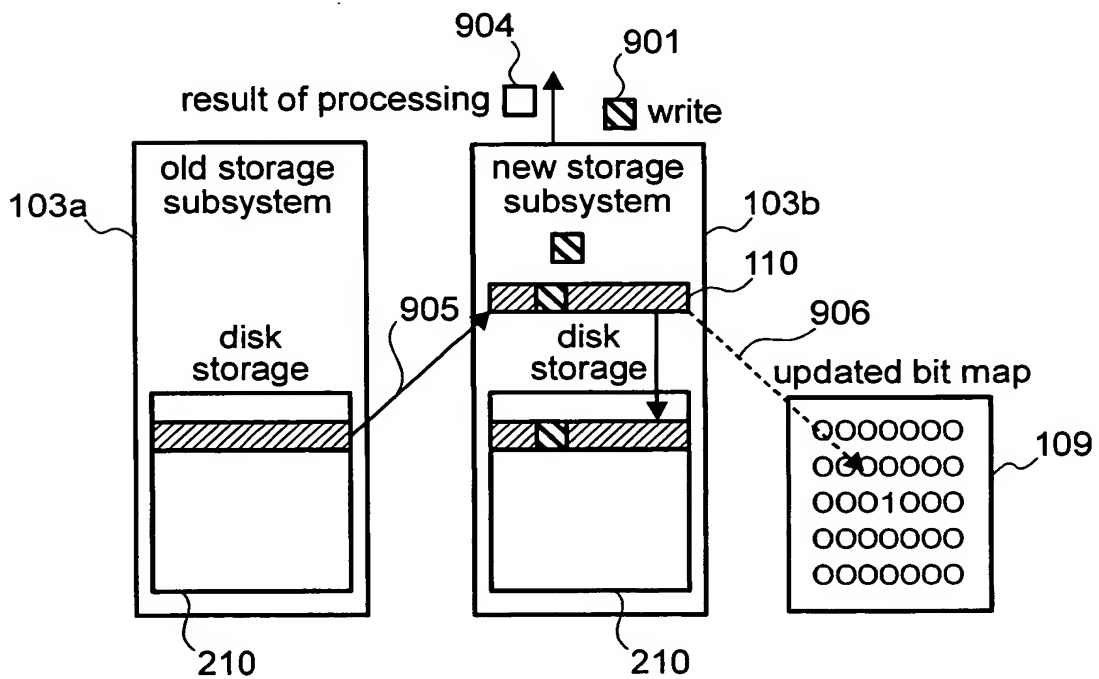


FIG.10

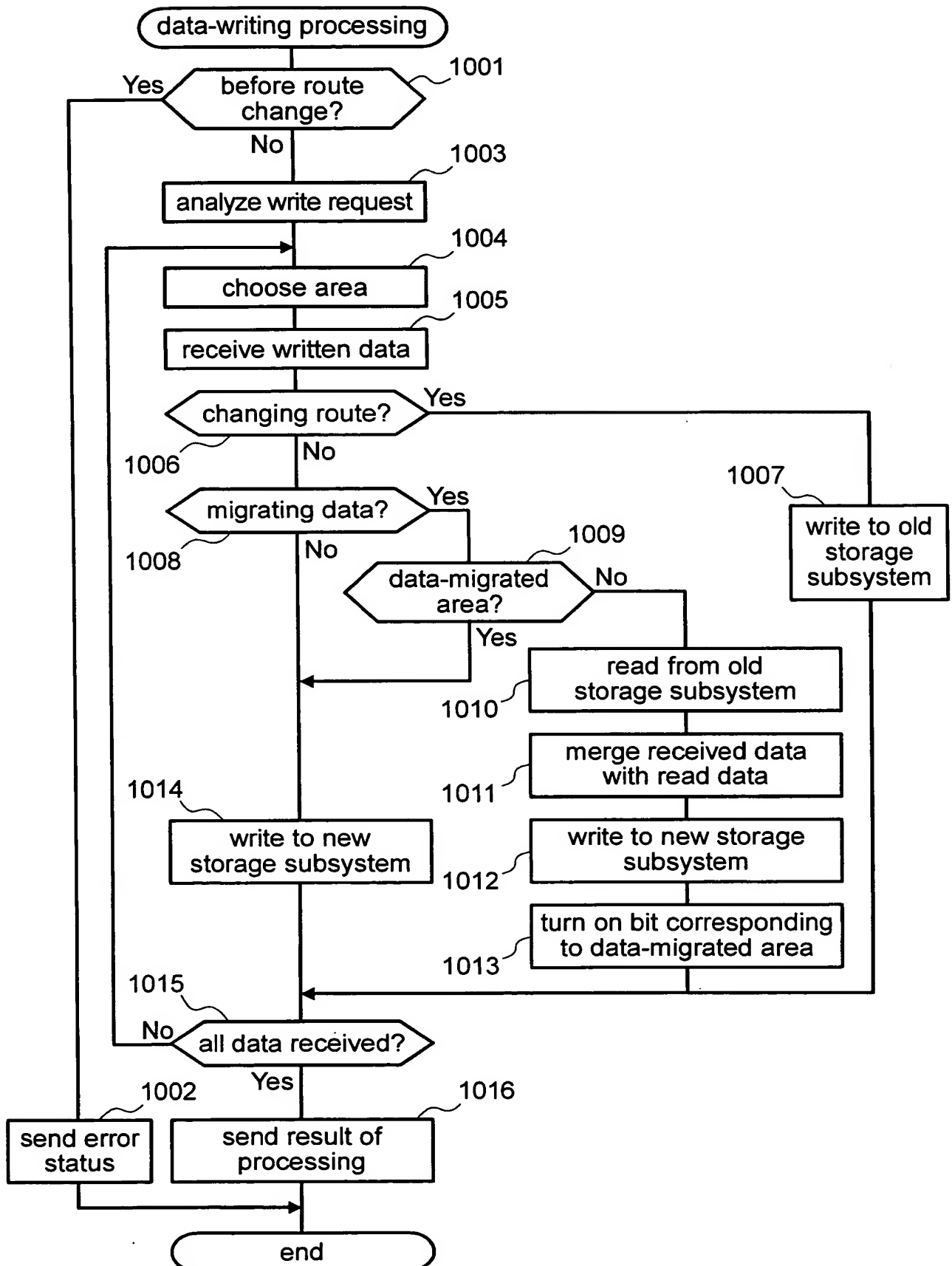
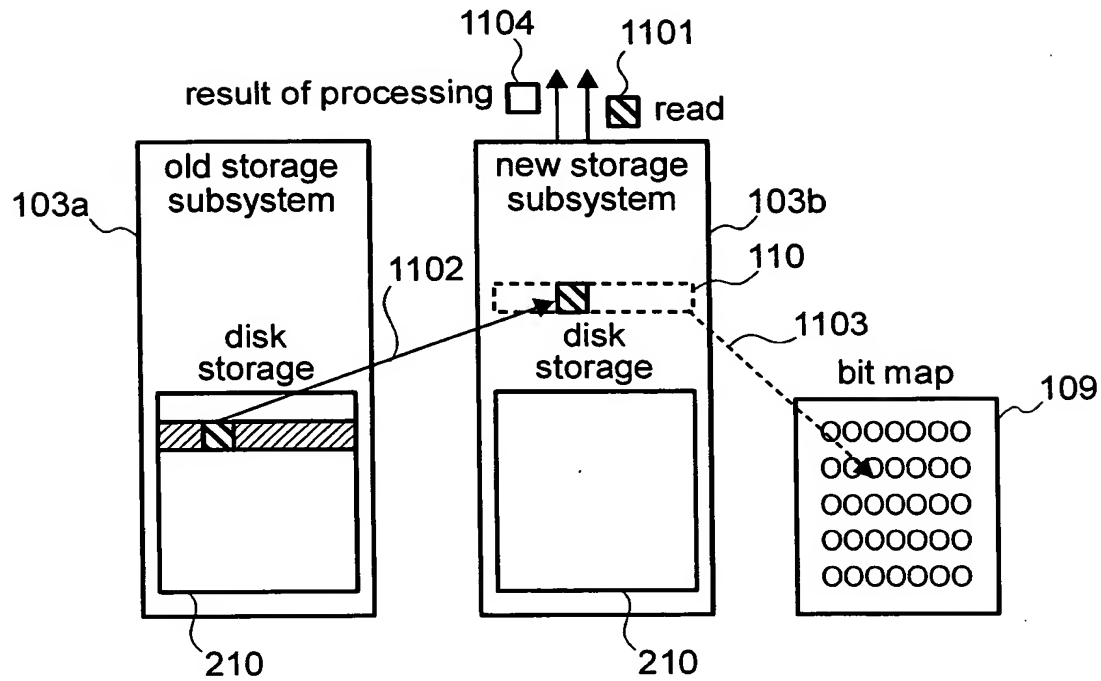


FIG.11

(a) route-changing phase



(b) data-migration phase (processing to data-unmigrated area)

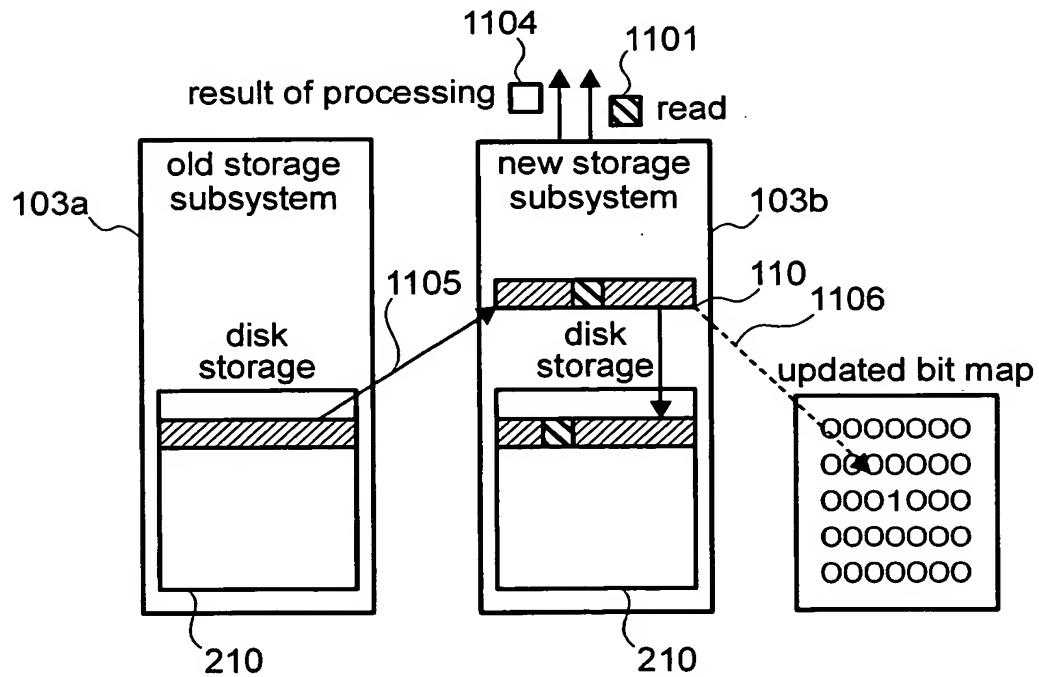


FIG.12

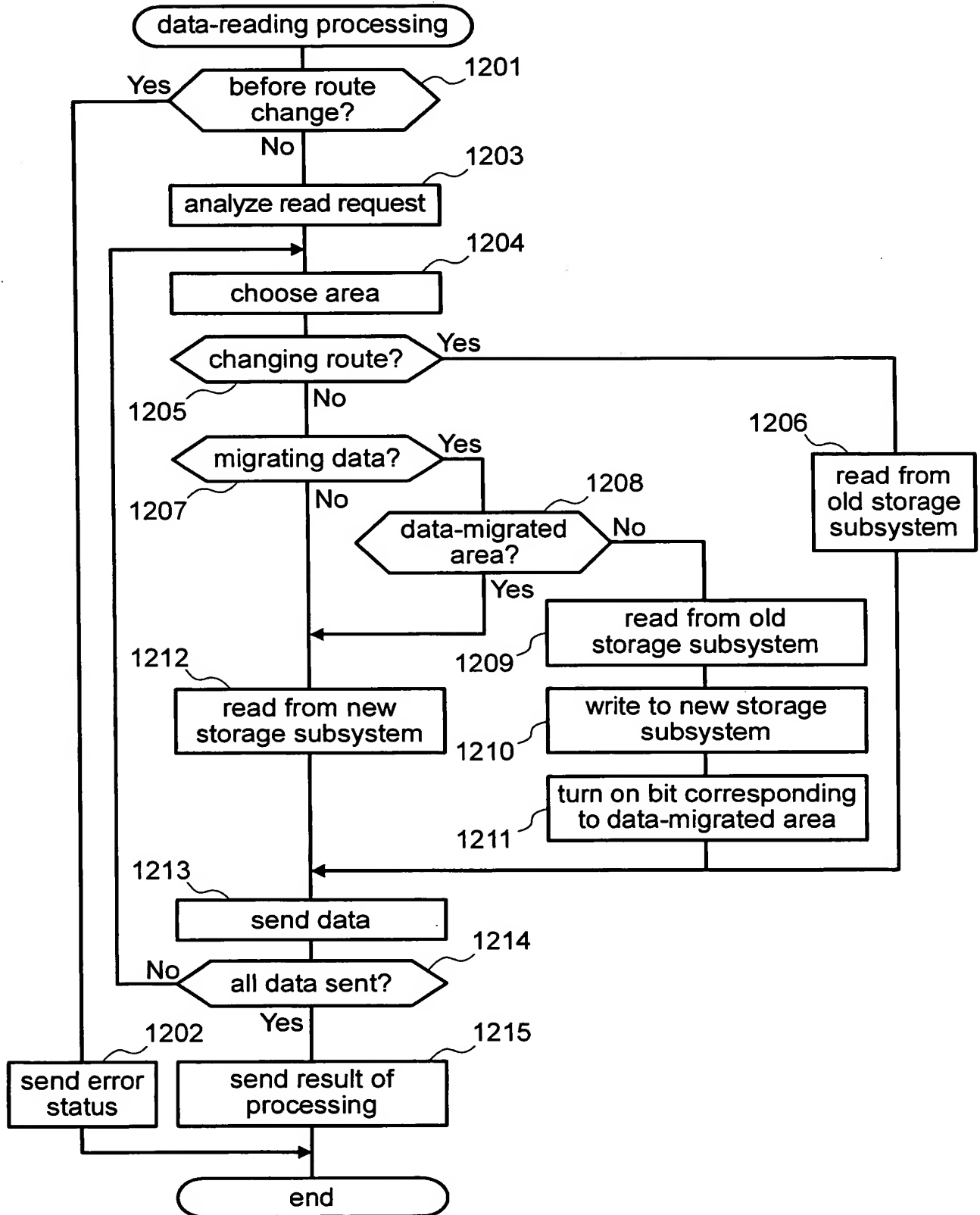


FIG.13

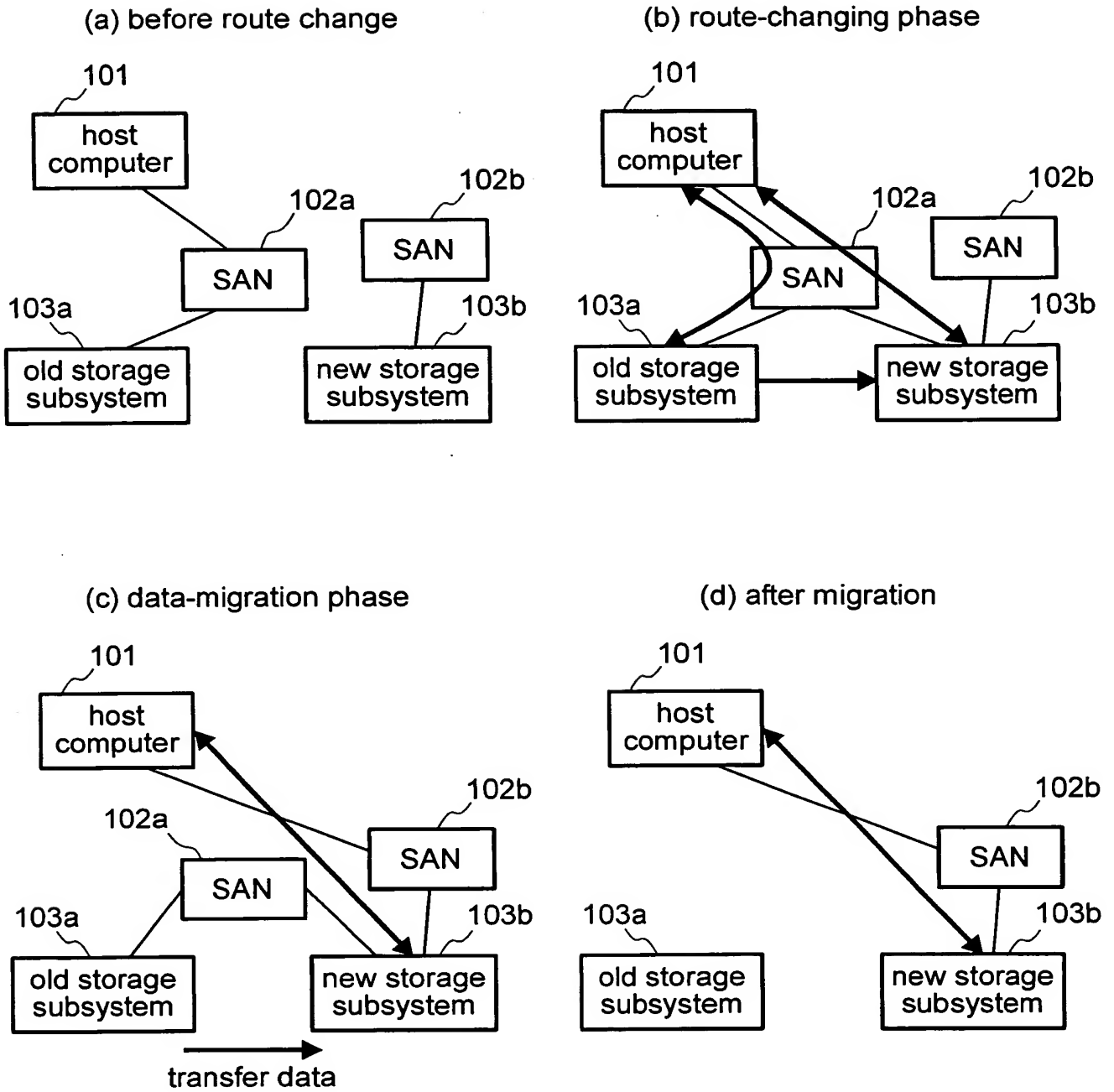


FIG.14

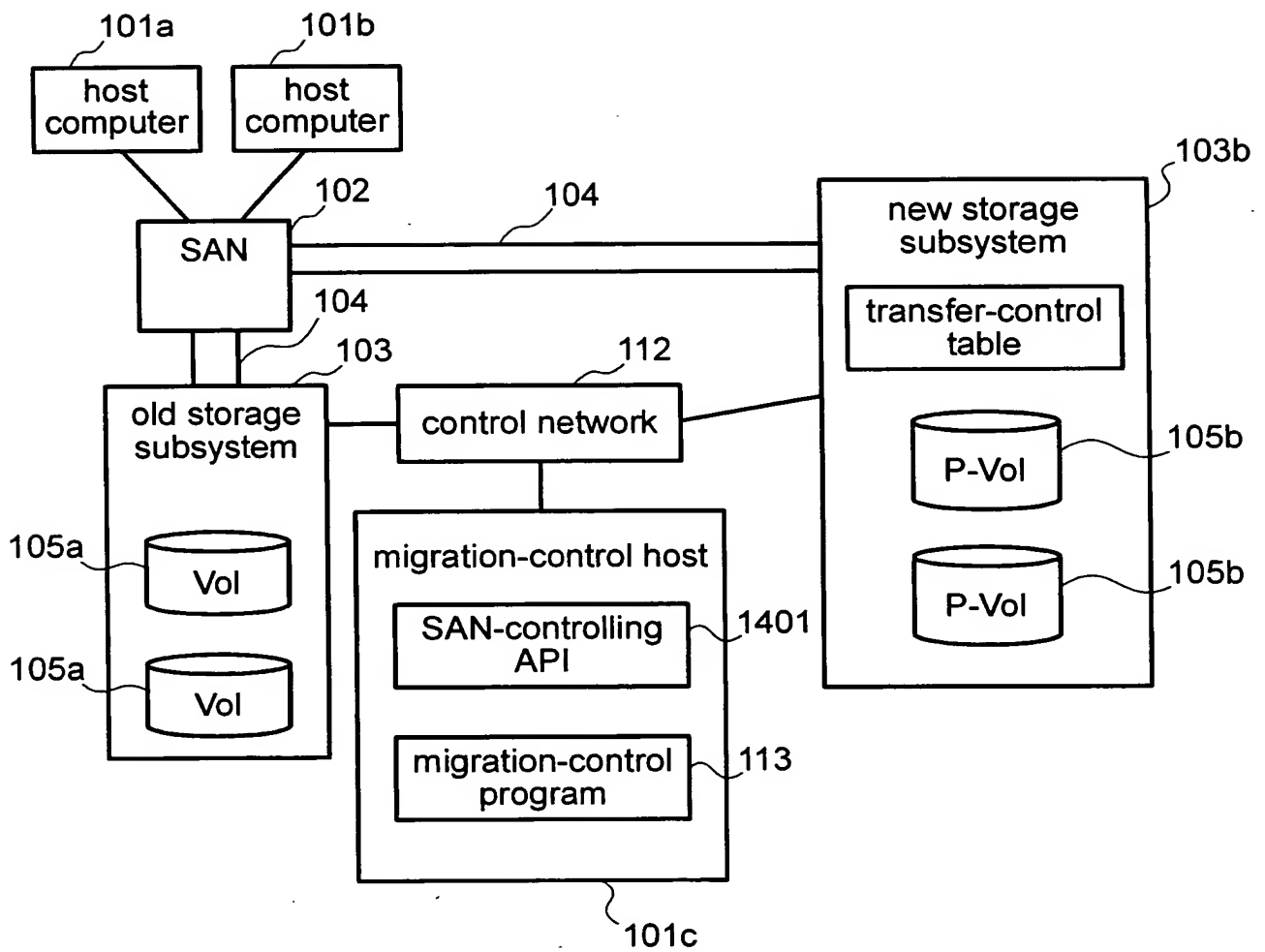


FIG.15

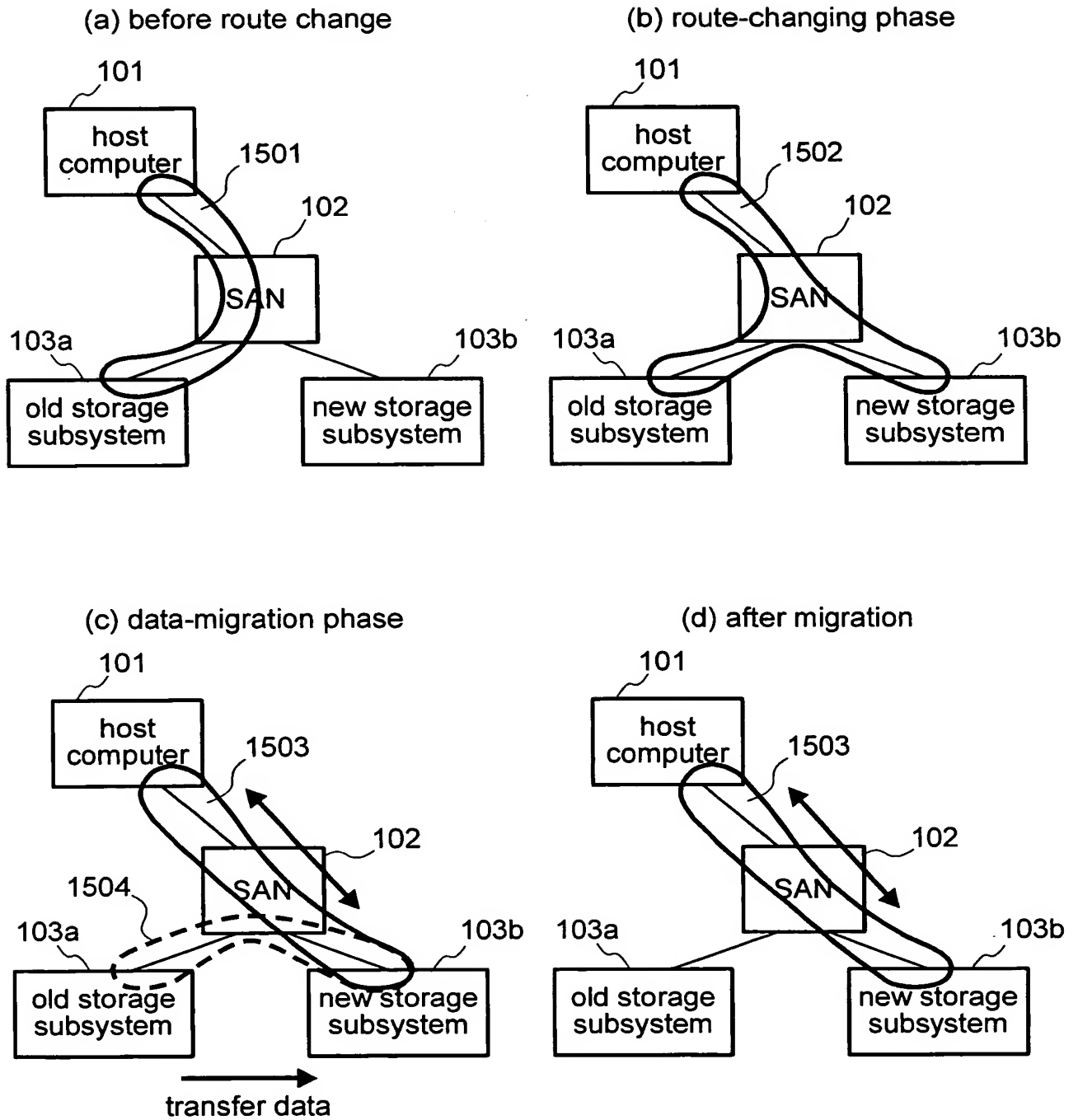


FIG.16

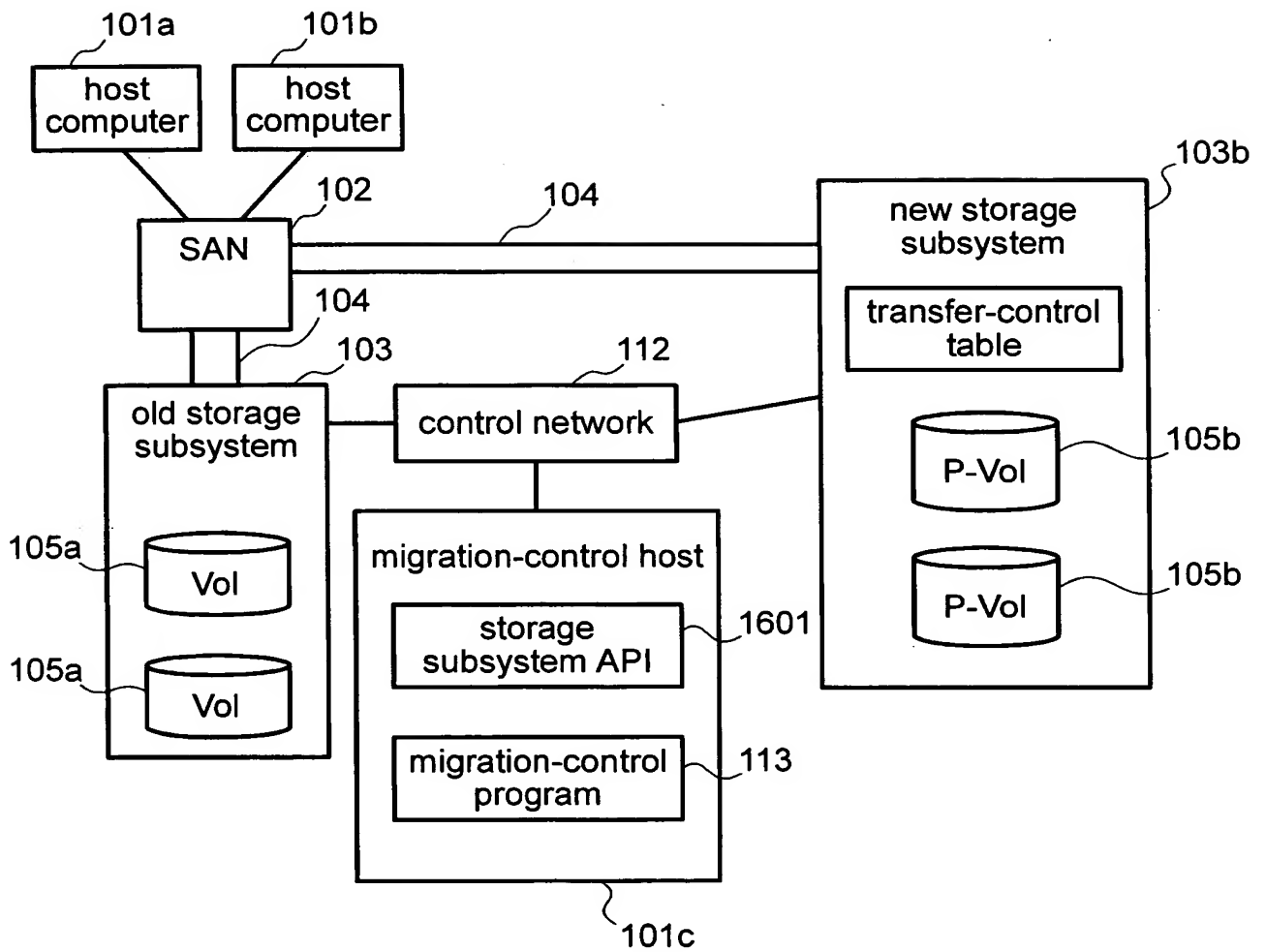


FIG.17

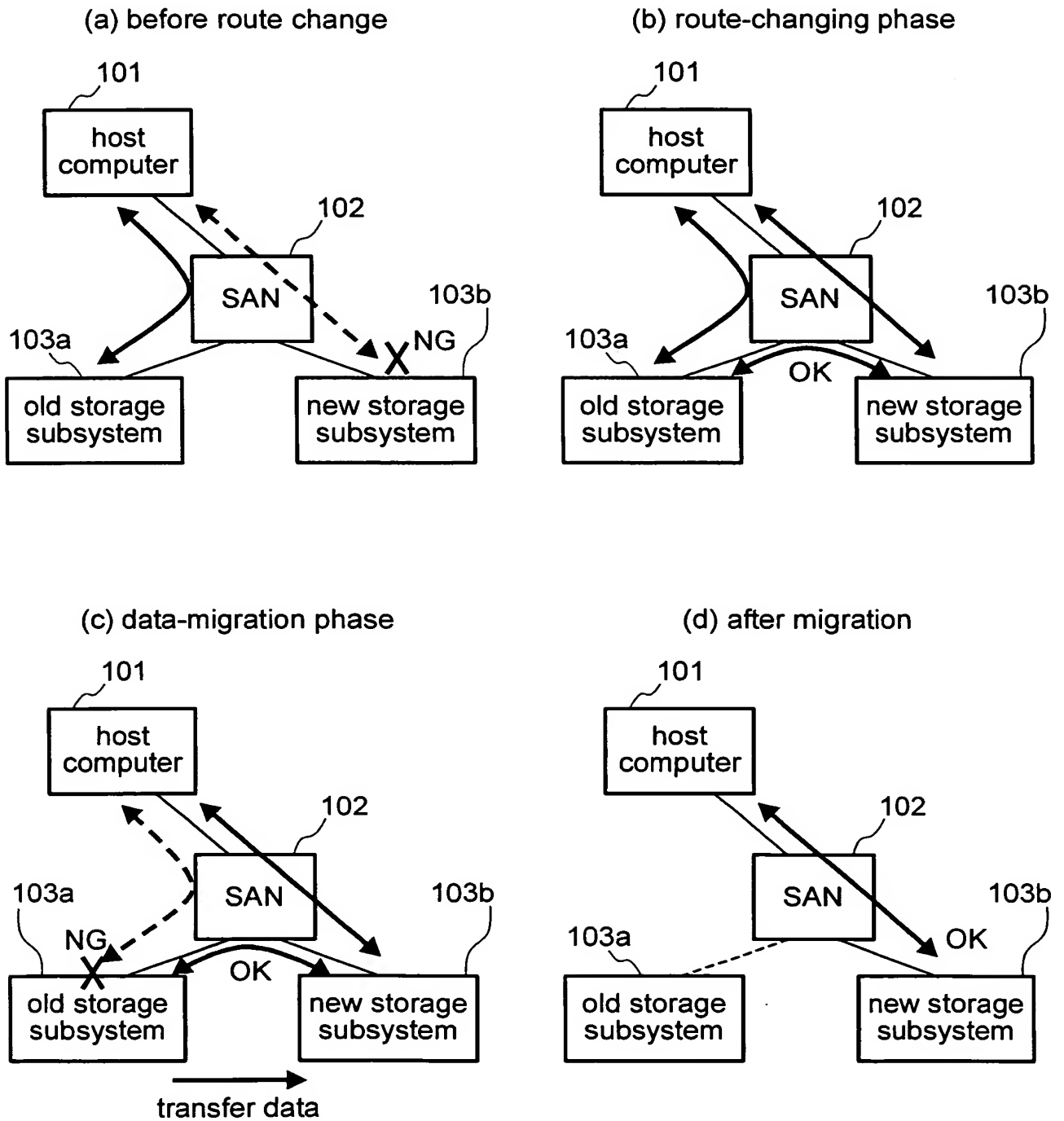


FIG.18

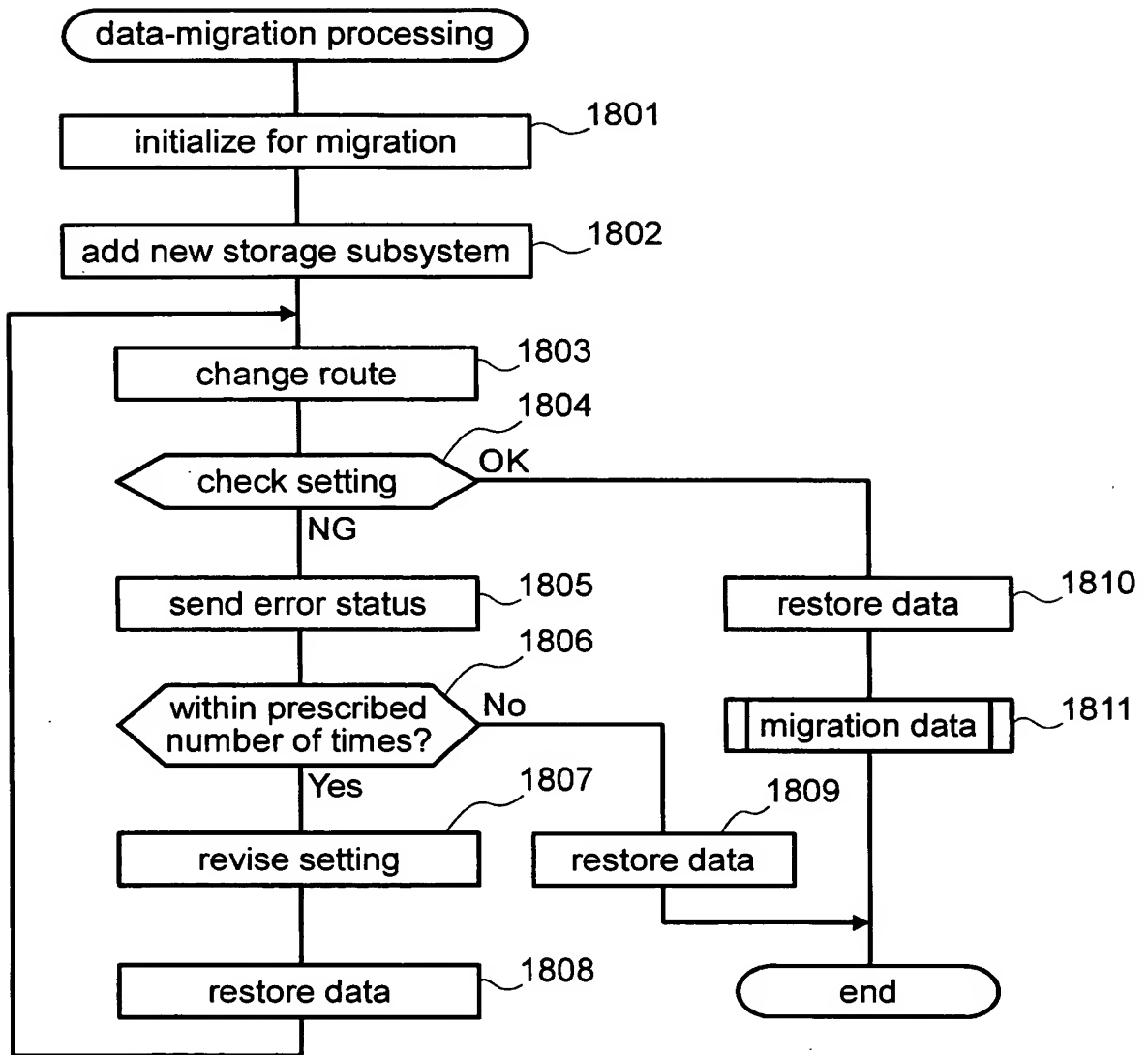


FIG.19

| # | migration status | old storage subsystem | | new storage subsystem | |
|---|----------------------|-----------------------|-------|--|-----------------------|
| | | read | write | read | write |
| 1 | before route change | old storage subsystem | | inaccessible | |
| 2 | debugging mode | inaccessible | | not updated: old → new updated: new | new storage subsystem |
| 3 | data-migration phase | inaccessible | | data-unmigrated area: old → new data-migrated area: new | new storage subsystem |
| 4 | after data migration | inaccessible | | new storage subsystem | new storage subsystem |